

A1 Cont.

selecting a weight set from the plurality of weight sets based, at least in part, on the received report signal.

8. (New) The method of claim 1, further comprising:

determining whether to hand off the SU to a second BS based, at least in part, on the received report signal.

9. (New) The method of claim 8, further comprising:

sending an estimate of the weight set to be used after handoff to the second BS.

10. (New) A machine-readable medium having stored thereon data representing sequences of instructions which, when executed by a processor, cause the processor to perform operations comprising:

transmitting a plurality of pilot downlink signals from a BS to a SU, each pilot downlink signal processed with a different weight set from the other pilot downlink signals;

receiving a report signal for at least one of the pilot downlink signals; and

selecting a weight set from the plurality of weight sets based, at least in part, on the received report signal.

11. (New) The machine-readable medium of claim 10, wherein a first one of the pilot downlink signals includes a first identifier.

12. (New) The machine-readable medium of claim 11, wherein a second of the pilot downlink signals includes a second identifier that is different from the first identifier.

13. (New) The machine-readable medium of claim 12, wherein the first and second identifiers identify first and second BSs, the second BS being displaced from the first BS by a distance sufficient to assure that the pilot downlink signal transmitted by the first BS and containing the second identifier will not interfere with communications between the second BS and the SUs currently communicating with the second BS.

14. (New) The machine-readable medium of claim 12, wherein the first pilot downlink signal identifies a first BS and wherein the SU also receives a third pilot downlink signal from a second BS, the SU generating and transmitting one of the report signals to the first BS, the report signal indicating the signal strength of the third pilot downlink signal and wherein the first BS determines whether to handoff the SU to the second BS based on the signal strengths reported for the first, second, and third pilot signals.

15. (New) The machine-readable medium of claim 12, wherein the cellular communication conforms to a cellular standard in which each SU automatically monitors each of a plurality of pilot downlink signals in a set of pilot downlink signals defined in messages sent by the first BS to the SU, the SU generating one of the report messages when the SU determines that one of the pilot downlink signals in the set of pilot signals has a signal quality that exceeds a threshold value, the report message identifying the pilot downlink signal.

16. (New) The machine-readable medium of claim 15, wherein the cellular standard is IS-95 and wherein the set of pilot downlink signals comprises one of a Candidate Set, Neighbor Set, or Remaining Set.

17. (New) The machine-readable medium of claim 10, having stored thereon data representing sequences of instructions which, when executed by a processor, cause the processor to further perform the operation comprising:

determining whether to hand off the SU to a second BS based, at least in part, on the received report signal.

18. (New) The machine-readable medium of claim 17, having stored thereon data representing sequences of instructions which, when executed by a processor, cause the processor to further perform the operation comprising:

sending an estimate of the weight set to be used after handoff to the second BS.

19. (New) An apparatus comprising:

receive signal circuitry for connecting with an array of antennae, to receive at least one report signal, the report signal corresponding to at least one pilot signal; and

a transmit weight processor, coupled with the receive signal circuitry, to determine a weight set applied to a downlink signal based, at least in part, on the received report signal;

20. (New) The apparatus of claim 19, further comprising:

transmit circuitry, coupled with the transmit weight processor, to apply the determined weight set to beamform a downlink signal.

21. (New) The apparatus of claim 20, wherein the downlink signal is a pilot signal.